

[METHOD OF FABRICATING A FLASH MEMORY]

Abstract

A method of fabricating a flash memory is provided. A substrate having several device isolation structures for defining an active region is provided. A tunneling dielectric layer and a patterned mask layer are formed over the active region. A portion of each device isolation structure is removed to form a plurality of trenches. A dielectric layer is formed over the substrate and a sacrificial layer is filled the trenches. A portion of the dielectric layer is removed using the sacrificial layer as a self-aligned mask. The patterned mask layer is removed and a conductive layer that exposed the top section of the sacrificial layers is formed over the substrate. After removing the sacrificial layer, an inter-gate dielectric layer and a control gate are formed over the substrate. A source region and a drain region are formed in the substrate on each side of the control gate.